

## **Abstract**

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A method and an apparatus for repeating wireless signals bidirectionally and synchronously are provided in the present invention, specially used for repeating wireless signals emitted from the base station and terminal devices bidirectionally and synchronously in the TDD system. Said apparatus comprises: a receiving and transmitting antenna set, a frequency selection and bidirection RF amplication circuit, and a synchronization extraction and control device. Signals emitted from the base station and terminal devices are received and repeated by the receiving and transmitting antenna set. The synchronization control information is extracted from signals emitted from the base station by the synchronization extraction and control device to cotroll the frequency selection and bidirection RF amplication circuit, thereby synchronously repeating signals received bidirectionally. By using the present invention, synchronously repeating signals received bidirectionally can be realized without delaying the time for receiving and transmitting signals, at the same time, a function of monitoring system malfunction can be also provided, thereby ensuring that the system works reliably.